

## REMARKS

The Office Action dated February 25, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Following the current amendment, claims 14 and 16-27 are currently pending for consideration, of which claims 14 and 27 are independent claims. In particular, Applicants amended claim 14, cancelled claim 15, and added new claim 27. It is respectfully submitted that the claim amendment and addition added no new subject matter to the present application and serve only to more particularly point out and distinctly claim the invention. Applicants urge that all grounds for rejection in the Office Action have been addressed and that the present application is currently in condition for allowance in view of the amendment and addition, and the following arguments. Therefore, entry of the amendment and addition, and reconsideration of claims are respectfully requested.

### Claim Allowance

Applicants wish to express great appreciation for the indication given in the Office Action that claim 18, although objected for depending from a rejected claim, would be allowable if written in independent form. Accordingly, Applicants have added new claim 27, that corresponds to claim 18 written in independent form. Consideration and allowance of claim 27 are therefore respectfully requested for at least the reasons presented in the Office Action.

### Claim Rejections under 35 U.S.C. §§102(b)/103(a)

Claims 14, 16-17, and 19-24 were rejected under 35 U.S.C. 102(b) as being allegedly anticipated by U.S. Patent No. 6,064,167 (Takenaka). Also, claims 15 and 26 were rejected under 35 U.S.C. 103(a) as being allegedly obvious in view of Takenaka. According to the Office Action, Takenaka allegedly discloses and suggest all recitations of these claims. However, as will be discussed below, each of claims 14-17, 19-24, and 26 recites subject matter which is neither disclosed nor suggested in Takenaka.

Independent claim 14, from which claims 16-26 depend, relates to a system for detecting abnormality of a mobile robot having at least a drive motor, an internal sensor that senses a quantity of state of the internal of the robot and a control unit constituted by an onboard microcomputer that operates the drive motor based on the quantity of state obtained from an output of the internal sensor to move. The control unit includes self-diagnosis means for self-diagnosing whether the quantity of state is an abnormal value, or whether at least one of onboard equipments mounted on the robot including at least the drive motor and the internal sensor is abnormal. The system also includes abnormality information outputting means for outputting, when an abnormality is self-diagnosed by the self-diagnosis means, information of the abnormality. The system also includes abnormality degree discriminating means for inputting the output of the abnormality information outputting means and for discriminating degree of abnormality in accordance with ranks defined in advance including stopping of locomotion of the robot based on the abnormality information. Also, the system includes stable state controlling means for controlling the robot into a stable state in response to the discriminated degree of

abnormality based on a predetermined action plan chart, wherein the stable state controlling means is configured to perform a plurality of actions and wherein the stable state controlling means, when controlling of the robot into the stable state, selects one or more of said a plurality of actions depending on the discriminated degree of abnormality.

Applicants submit that the above-noted independent claim recites subject matter that is not taught or disclosed by Takenaka.

Applicants are quite familiar with Takenaka because it is co-assigned to the same assignee as the present application. As depicted in FIG. 1, Takenaka discloses a robot having a malfunction processor 13. As depicted in FIG. 3, the malfunction processor 13 various sensors 25 and 26 to detect the state of the robot, such as the state of the battery, sensors, and drive motor. Then, a fall judging means 27 in the malfunction processor 13, uses the state data to predict when a fall is predicted and forwards information of the predicted fall to the leg controller 11. As disclosed in FIGS. 6 and 7 of Takenaka, the malfunction processor 13 produces a single type of error message output to indicate a fall, and in response, the leg controller 11 directs the robot to perform a single function of lowering its center of gravity in response to the predicted fall. Therefore, Takenaka addresses the technical problem of predicting a fall, regardless of the cause, and then performing a maneuver to prevent or otherwise prevent damage from the fall, regardless of the cause. In other words, Takenaka performs the same action regardless of the severity of the fault causing the fall.

In contrast, independent claim 14 recites a robot that includes self-diagnosis means, abnormality information outputting means, abnormality degree discriminating

means, and stable state driving means. In particular, claim 14 recites that the abnormality degree discriminating means is “for inputting the output of the abnormality information outputting means and for discriminating degree of abnormality based on the abnormality information.” Similarly, the stable state driving means drives the robot into a stable state “in response to the discriminated degree of abnormality.” Therefore, the certain recited embodiments of the present application address a technical challenge of offering various potential actions to respond a problem and then selecting between the responses based upon the determined degree of abnormality.

In contrast, Applicants urge, as described above, that Takenaka does not disclose the recitation of determining “a degree of abnormality.” Specifically, Applicant note that Takenaka discloses determining if the robot is falling, and does not seem to suggest, for example, determining the robot exact stratus in the predicted fall. Similarly, Applicant urge that Takenaka does not disclose causing a reaction that depends on the discriminated degree of abnormality. Instead, as described above, Takenaka presents a single solution of lowering the robot, regardless of the severity of the problem causing the robot to fall. For example, Takenaka does not suggest making a small adjustment in response to a small detected imbalance.

In order to clarify this distinction, Applicants have amended claim 14 to further recite that the “the stable state driving means is configured to perform a plurality of actions” and “the stable state driving means, when driving of the robot into the stable state, selects one or more of said a plurality of actions depending on the discriminated degree of abnormality.” Claim 14 further recites stabilizing means that act in response to

the discriminated degree of abnormality based on a predetermined action plan chart. As noted above, since Takenaka does not does perform multiple possible actions in response to a detected error, there can be no “action plan chart” disclosed in Takenaka.

For at least these reasons, Takenaka does not teach each and every recited limitation of claim 14 as required for a rejection under 35 U.S.C. §102(b). Consequently, this rejection of claim 14 is improper and should be withdrawn. Likewise, claims 15-26 depend from claim 14 and should be allowed on similar grounds, as well as the separate recitations included in these claims. Therefore, withdrawal of this rejection of claims 14-17, 19-24, and 26 and reconsideration of these claims in view of the proceeding arguments are respectfully requested.

Likewise, objected claim 18 also depends from claim 14 and should be allowed on similar grounds, as well as the separate recitations included in this claim. Therefore, withdrawal of this objection and allowance of claim 18 in view of the proceeding arguments are also respectfully requested.

Continuing with the Office Action, claim 25 was rejected under 35 U.S.C. 103(a) as being allegedly obvious over Takenaka in view of U.S. Patent No. 6,584,377 (Saijo). In particular, the Office Action alleged that Takenaka discloses the limitations of independent claim 14 and Saijo discloses the additional limitations from claim 25 of a voice recognition system. However, as discussed below, claim 25 recites subject matter which is neither disclosed nor suggested in Takenaka and Saijo. Applicants respectfully traverse this rejection and request reconsideration in view of the following arguments.

Regarding claim 25, Applicants urge that Saijo does not addresses the above-described deficiencies in Takenaka. In particular, Saijo provides a voice recognizer 54 for detecting and analyzing voice commands and performing appropriate actions. Saijo does not relate to identifying and addressing faults, and certainly does not disclose or suggest the abnormality degree discriminating means or the stable state driving means as recited in pending claim 14. Instead, as disclosed for example at col. 9, ll. 48-57, when an error such as a faulty command is received, the disclosed robot ceases operation and waits for a proper command. Thus, Saijo discloses waiting for user instructions for addressing detected faults.

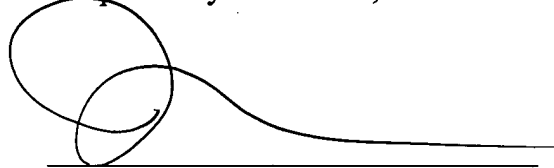
For at least these reasons, Takenaka and Saijo do not teach each and every recited limitation of claim 14. Therefore, claim 14 is allowable over the combination of Takenaka and Saijo. Consequently, the rejection of claim 25, the depends from claim 14, is improper and should be withdrawn on similar grounds, as well as the separate recitations included in claim 14. Therefore, withdrawal of this rejection of claim 25 and reconsideration of this claim in view of the proceeding arguments are respectfully requested.

In view of the above, it is respectfully submitted that each of the pending claims 14 and 16-27 recites the subject matter which is neither disclosed or suggested in any of the cited prior art references. Also, it is respectfully submitted that the subject matter is more than sufficient to render the claimed invention unobvious to a person of ordinary skill in the art. Therefore, it is respectfully requested that independent claims 14 and 27, dependent claims 16-26, and this application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in black ink, consisting of a large, stylized loop followed by a horizontal line extending to the right.

David D. Nelson  
Registration No. 47,818

**Customer No. 32294**  
SQUIRE, SANDERS & DEMPSEY LLP  
14<sup>TH</sup> Floor  
8000 Towers Crescent Drive  
Tysons Corner, Virginia 22182-6212  
Telephone: 703-720-7800  
Fax: 703-720-7802

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